

## ARIZONA DEPARTMENT OF WATER RESOURCES

Operations Division

500 North 3rd Street

Phoenix, Arizona 85004

\*

## WELL DRILLER REPORT

M9-S

AUG 7 1995

This report should be prepared by the driller in all detail and filed with the Department within 30 day following completion of the well.

1. Owner Name: MAGMA COPPER COMPANY  
Address: 14605 WEST HUNT HIGHWAY FLORENCE AZ 85232  
Street City State Zip
2. Driller Name: BOYLES BROTHERS DRILLING CO.  
Address: 6827 W. NORTHVIEW AVE GLENDALE AZ 85301  
Street City State Zip
3. Location: 4 N/S 9 E/W 28 1/4 SW 1/4 SW 1/4 NW  
Township Range Section 10-acre 40-acre 160-acre
4. Well Registration No. 55- 547613 (Required)
5. Permit No. \_\_\_\_\_ (If issued)

## DESCRIPTION OF WELL

6. Total depth of hole 1578 ft
7. Type of casing Sch. 40 Lcs, Sch. 80 PVC
8. Diameter and length of casing 5 9/16 in. from 0-15 to 502, 4 1/2 in from 502 to 1570
9. Method of sealing at reduction points Change over sub
10. Perforated from \_\_\_\_\_ to \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_ from \_\_\_\_\_ to \_\_\_\_\_
11. Size of cuts \_\_\_\_\_ Number of cuts per foot \_\_\_\_\_
12. If screen was installed: Length 60 ft. Diam 4 1/2 in. Type 304 0.080 slot SS
13. Method of construction Drilled  
(drilled, dug, driven, bored, jetted, etc)
14. Date started FEBRUARY 22 1995  
Month Day Year
15. Date completed MARCH 23 1995  
Month Day Year
16. Depth to water 153 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available  
FROM THE TOP OF THE CASING
18. If flowing well, state method of flow regulation: \_\_\_\_\_
19. Remarks: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

DO NOT WRITE IN THIS SPACE  
OFFICE RECORD

Registration No. 547613  
 File No. D(4-9)288cc  
 Received \_\_\_\_\_ By \_\_\_\_\_  
 Entered ENTERED AUG 17 1995 By \_\_\_\_\_

## LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encountered, and depth to which it rose in well.

[illegible]

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Rogers Bros. Mott & Mott  
6507 W. Northview Ave  
 Street  
Glendale, Ar  
 City State Zip  
602-941-1731  
 Phone No.  
6/20/85  
 Date

**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION**

500 North Third Street, Phoenix, Arizona 85004-3903  
Phone (602) 417-2470 Fax (602) 417-2422

**REQUEST FORM TO CHANGE WELL INFORMATION  
OWNERSHIP \* DRILLER \* VARIANCE**

Please complete the appropriate section of this request form and return to the above address with applicable fee.  
**NOTE:** A.R.S. § 45-593.C requires that the Department be notified of change of well ownership and that the new owner is required to keep the Department's Well Registration records current and accurate. Well data and ownership changes must be submitted within thirty days after changes take place.

**SAVE THIS FORM TO REPORT FUTURE CHANGES IN OWNERSHIP, CHANGES IN ADDRESS, OR CHANGE IN WELL DATA SUCH AS PUMP CAPACITY, CORRECTION OF LEGAL DESCRIPTION, CHANGE OF WELL DRILLER AND AMENDING INFORMATION PREVIOUSLY FILED.**

**1. CHANGE OF WELL INFORMATION: (NO FEE REQUIRED)**

**NOTE:** If the location of the proposed well changes after drilling authority has been issued, attach a \$10.00 reissue fee for each well.

WELL REGISTRATION NO. 55- 547613 FILE NO: D(4-9)28BCC

If known, I/We request the following well information be changed: \_\_\_\_\_

NAME CHANGE ONLY

Date \_\_\_\_\_ Signature of Current Well Owner \_\_\_\_\_

**2. STATEMENT OF CHANGE OF WELL OWNERSHIP: (\$10.00 FEE REQUIRED)**

**NOTE:** If this change consists of more than one well and the names are common: attach a \$10.00 fee. Otherwise, each well requires a separate fee of \$10.00.

I, \_\_\_\_\_, state that I am the Previous/New Owner of the well described below:

1/4 1/4 1/4 of Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_  
10 Acre 40 Acre 160 Acre

Well Registration No. 55- See attached File No.: \_\_\_\_\_ (if known)

Magma Copper Company BHP Copper Inc.  
PRINT Previous Owner's Name PRINT New Owner's Name

7400 North Oracle Road, Suite 200 7400 North Oracle Road, Suite 200  
Mailing Address Mailing Address

Tucson Arizona 85704 Tucson Arizona 85704  
City State Zip City State Zip

520-575-5600 520-575-5600  
Telephone Number Telephone Number

Signature of Previous/New Well Owner By: [Signature] Date 4-23-98  
Title: Land Manager

**ARIZONA DEPARTMENT OF WATER RESOURCES  
GROUNDWATER MANAGEMENT SUPPORT SECTION**  
500 North Third Street, Phoenix, Arizona 85004-3903  
Phone (602) 417-2470 Fax (602) 417-2422

**3. REQUEST TO CHANGE WELL DRILLER      \$10.00 FEE REQUIRED FOR EACH WELL**

This request must be received by this Department and the Drill Card issued to the new drilling firm prior to the drilling or completion of any well.

Well Registration No. 55- \_\_\_\_\_ File No: \_\_\_\_\_

\_\_\_\_\_  
Original Well Driller

\_\_\_\_\_  
New Well Driller

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
Mailing Address

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
ADWR License Number

\_\_\_\_\_  
ADWR License Number

\_\_\_\_\_  
R.O.C. License Category

\_\_\_\_\_  
R.O.C. License Category

\_\_\_\_\_  
Typed or Printed Name of Well Owner

\_\_\_\_\_  
Signature of Well Owner

\_\_\_\_\_  
Date

The fee charge for well ownership and reissue of drill card is authorized by R12-15-151, effective June 30, 1994.

**4. REISSUE OF DRILLING AUTHORITY FOR VARIANCE REQUEST: (\$10.00 EACH WELL)**

**NOTE:** If extraordinary or unusual conditions exist, after the initial drilling authority has been issued, the well owner or well driller may request a variance from the provisions of R12-15-811.

WELL REGISTRATION NO. 55- \_\_\_\_\_ FILE NO: \_\_\_\_\_

**I/WE REQUEST THE FOLLOWING WELL DRILLING AUTHORITY BE REISSUED PER THE ATTACHED VARIANCE REQUEST:**

Signature of Well Owner/Well Driller \_\_\_\_\_

Date \_\_\_\_\_

## NAME: MAGMA COPPER CO

GRID: J 09

REPORT NO: WLS020

ARIZONA DEPARTMENT OF WATER RESOURCES WELL REPORT  
OPERATIONS DIVISION

PAGE 5,381

REPORT DATE: 1/31/96

\*\*\* WELLS SEQUENCED BY ALPHABETICAL ORDER \*\*\*

FULL-NAME	C J A D N	T D W N E Y	R N E Y	S E E T S	WELL NO	WELL DEPTH	DEPTH CASED	CD AL SA SM	WATER LEVEL	PUMP (GPM)	WELL DATE	DRL LIC NO.	WYR USE	WS AM TE RD	C G T N	
MAGMA COPPER CO 7400 N ORACLE RD 162 TUCSON AZ 85704	D	4.0	9.0	28	C B A	55-547810	1400	1379	04	0164	7/27/1995	314	M	U5	X N	
MAGMA COPPER CO 14505 E HUNT HWY FLORENCE AZ 85232	D	4.0	9.0	53		55-548246						028	N	U8	I N	
MAGMA COPPER CO 14505 E HUNT HWY FLORENCE AZ 85232	D	4.0	9.0	28		55-548247						028	N	U8	I N	
MAGMA COPPER CO PO BOX 100 MIAMI AZ 85539	A	1.0	13.0	24	B S C	55-539473	0190	0190	01		6/25/1993	269	Y	C7	X N	
MAGMA COPPER CO 7400 N ORACLE RD 162 TUCSON AZ 85704	D	4.0	9.0	28	C B A	55-547811	0770	0760	04	0164	8/11/1995	314	M	U8	X N	
MAGMA COPPER CO 7400 N ORACLE RD 162 TUCSON AZ 85704	D	4.0	9.0	28	C B A	55-547812	1440	1413	04	0164	8/01/1995	314	M	U8	X N	
MAGMA COPPER CO 7400 N ORACLE RD 162 TUCSON AZ 85704	D	4.0	9.0	28	C B C	55-547813	0630	0614	05	0157	00014	6/06/1995	314	M	U8	X X
MAGMA COPPER CO 7400 N ORACLE RD 162 TUCSON AZ 85704	D	4.0	9.0	28	B C C	55-547611	0940	0928	05	0155	00014	4/06/1995	028	M	U8	X X
MAGMA COPPER CO 7400 N ORACLE RD 162 TUCSON AZ 85704	D	4.0	9.0	28	B C C	55-547612	1115	1090	05	0149	00014	4/12/1995	028	M	U8	X X
MAGMA COPPER CO 7400 N ORACLE RD 162 TUCSON AZ 85704	D	4.0	9.0	28	B C C	55-547613	1578	1570	05	0153	00014	3/23/1995	028	M	U8	X X
MAGMA COPPER CO 7400 N ORACLE RD 162 TUCSON AZ 85704	D	4.0	9.0	33	B B C	55-547614	0370	0358	05	0097	00014	5/23/1995	314	M	U8	X X

FILING FEE \$10.00

500 NORTH THIRD STREET

PHOENIX, ARIZONA 85004 (602) 417-2470

FILING FEE \$10.00

JAN 24 1995

## NOTICE OF INTENTION TO DRILL MONITOR/PIEZOMETER WELL

OPERATIONS DIV.

Section § 45-596, Arizona Revised Statutes provide: Prior to drilling a monitor or piezometer well, a Notice of Intention to Drill shall be filed with the Department.

## 1. WELL LOCATION:

4 NS 9 EW 28  
Township Range Section

SW 1/4 SW 1/4 NW 1/4  
10 ACRE 40 ACRE 160 ACRE

## 2. Position location of the well on the land:

Latitude 33 0 3 . 15 .Longitude 111 0 26 . 12 .3. County: Pinal

## 4. Owner of the land of wellsite:

Magma Copper Company  
Name  
7400 N. Oracle Rd., Ste. 200  
Address  
Tucson AZ 85704  
City State Zip

## 5. Lessee of the land of wellsite:

Name  
Address  
City State Zip

## 6. Owner of well:

Magma Copper Company  
Name  
7400 N. Oracle Rd., Ste. 162  
Address  
Tucson AZ 85704  
City State Zip

7. Consulting Firm: BCContact Person: Steve MellonPhone: 602-222-4445

## 8. Purpose of well drilled pursuant to this notice

Monitor X

Piezometer \_\_\_\_\_

## 9. If for deepening or modifying, Well Registration Number

55- \_\_\_\_\_

## 10. Construction will start:

February 1995  
Month Day Year

## 11. Period well will remain in

use 3 Months Years

## 12. For monitoring wells, is pump equipment to be installed?

Yes \_\_\_\_\_ No X

(a) If yes, design pump capacity \_\_\_\_\_

(b) What use will be made of the water \_\_\_\_\_

## 13. Drilling firm:

Boyles Brothers Drilling Co  
Name  
6527 W. Northview Ave.  
Address  
Glendale AZ 85301  
City State Zip

DWR License No. 28

Class A-04

076-386-002

ROC License classification

## 14. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous material or petroleum storage areas and tanks?

Yes \_\_\_\_\_ No X

DO NOT WRITE IN THIS SPACE  
OFFICE RECORD

File No. D(4-9)28 BCC

Filed 1-24-95 By sk

Input \_\_\_\_\_ By \_\_\_\_\_

ENTERED - 6 1995  
DUPLICATE

Mailed 1-31-95 By sk

Registration 55- 547613

AMA/INA Pinal

W/S 28 S/B 11

16. Proposed method of abandonment of well after project is completed: According to Regulation R-12-15-81617. Is this well to monitor existing contamination? No Potential contamination \_\_\_\_\_ Please explain: \_\_\_\_\_

## GENERAL INSTRUCTIONS

- Fill out this form in DUPLICATE and send WITH \$10.00 FEE to 500 NORTH THIRD STREET, PHOENIX, AZ 85004
- For specific instructions, limitations and conditions, see the reverse side of this form.
- Must be signed by land owner or lessee.
- Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified and the drilling, deepening, or modification of the well may not proceed.

I state that Notice is filed in compliance with Section § 45-596 and is complete and correct to the best of my knowledge and belief and that I understand the conditions set forth on the reverse side of this form.

Dan S. Ramey  
Typed or Printed Name

Dan S. Ramey  
Signature [ ] Land Owner [ ] Lessee of wellsite

1/24/95  
Date

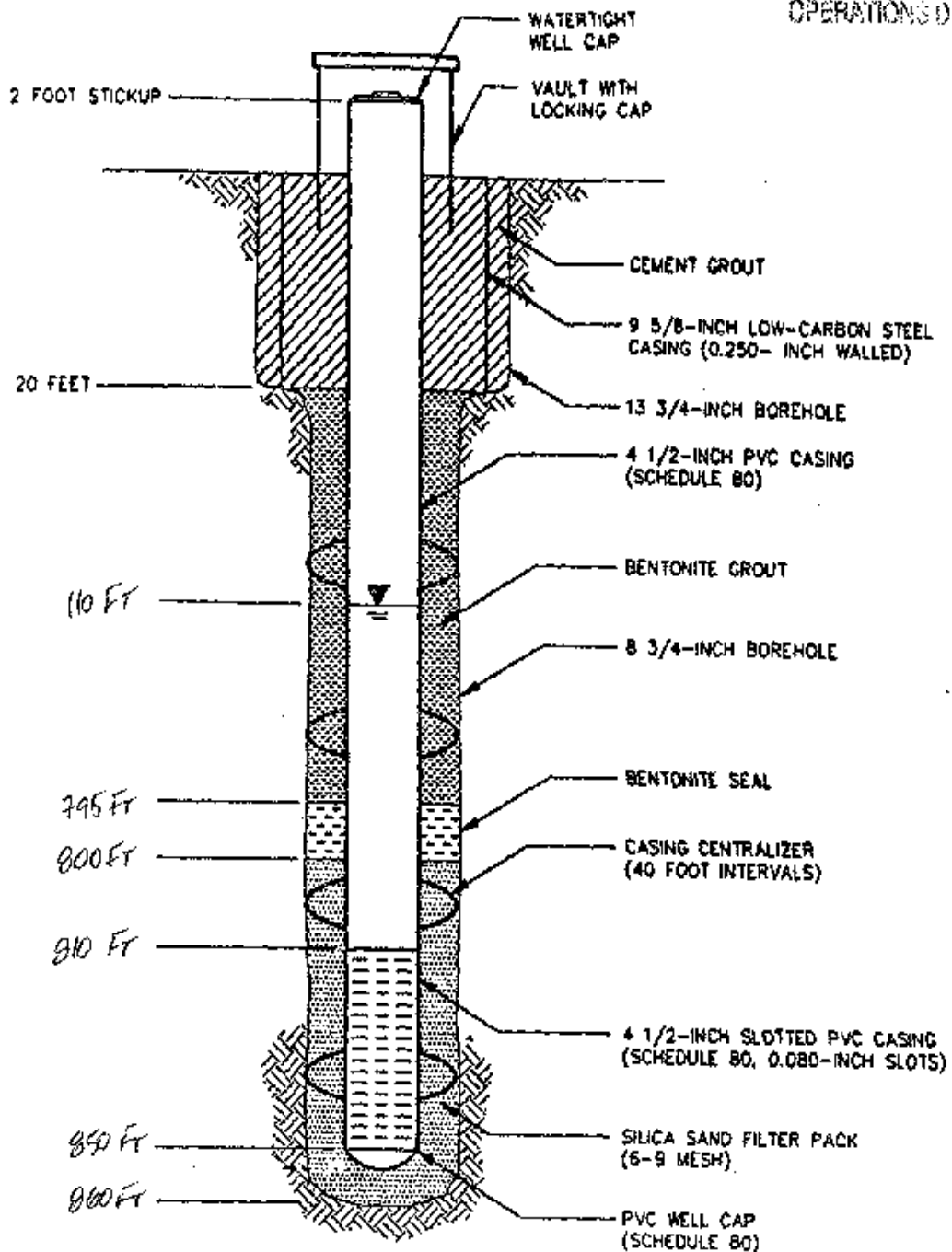
18. If construction plans have been coordinated with Arizona Department of Environmental Quality, who is the agency contact? \_\_\_\_\_  
 If construction plans have been coordinated with Arizona Department of Water Resources, who is the agency contact? \_\_\_\_\_
19. WELL CONSTRUCTION PLAN
- a) Drilling method (mud rotary, hollow-stem auger, etc.) Mud Rotary
- b) Borehole diameters: 13 3/4 inches from 0 feet to 20 feet.  
8 3/4 inches from 20 feet to 860 feet.
- c) Casing materials (PVC, steel, hollow-stem auger, etc.)  
 material Steel diameter 9 5/8 inches from 0 feet to 20 feet  
 material Steel diameter 4 inches from 0 feet to 810 feet
- d) Method of sealing at reductions \_\_\_\_\_
- e) Annular seal materials (cement, grout, etc.); method of placement (tremied, circulated)  
 material Cement Grout method Tremie from 0 feet to 20 feet  
 material Bentonite Grout method Tremie from 20 feet to 800 feet
- f) Filter packs (state material):  
 material Cobble Silica Sand from 800 feet to 860 feet  
 material #6-9 Mesh from \_\_\_\_\_ feet to \_\_\_\_\_ feet
- g) Perforations or screen specifications:  
 type .080 inch slot PVC Schd 80 from 810 feet to 850 feet  
 type \_\_\_\_\_ from \_\_\_\_\_ feet to \_\_\_\_\_ feet
- h) Method of well development (bail, air lift, surge) Air Lift and Jetting
- i) Will surface or conductor casing extend above grade: Yes \_\_\_\_\_ No X
20. Include detailed construction diagram showing expected water depth in feet below land surface, and details of vault, if specified.

## CONDITIONS

- I. Construction and abandonment standards for all wells shall be in accordance with A.A.C. R12-15-811 and R12-15-816.
- II. Drilling of the well shall be completed within one (1) year after the date of Notice.
- III. A Well Driller Report, is required within 30 days of completion of drilling. A Completion Report, is required to be filed with the Department within 30 days after installation of pump equipment for monitor wells.
- IV. Pump equipment may not be installed on a well drilled for piezometer purposes. If a monitor well is pumped, pumping is limited to the maximum amount required for monitor purposes, but in no case may exceed 35 gallons per minute and an annual volume of 10 acre feet total.
- V. A.A.C. Rule R12-15-811.H.2, requires that: "A monitor well shall be identified as such on the vault cover or at the top of the steel casing. Identification information will include well registration number."
- VI. Special construction standards required pursuant to A.A.C. Rule R12-15-821: \_\_\_\_\_

JAN 24 1995

OPERATIONS DIV.



N.T.S.

NOTES:

1. PVC = POLYVINYL CHLORIDE
2. CASING DIMENSIONS ARE OUTSIDE DIAMETER

**WELL DESIGN**

**BROWN AND CALDWELL**



## ARIZONA DEPARTMENT OF WATER RESOURCES

500 N 3RD ST., PHOENIX, AZ. 85004  
Telephone (602) 417-2470  
Fax (602) 417-2401



January 30, 1995

MAGMA COPPER CO.  
7400 N. ORACLE RD. S162  
TUCSON, AZ. 85704

MIKE SYMINGTON  
Governor

RIYA P. PEARSON  
Director

RE: Registration No. 55-547611 THRU 55-547617

File No. VARIOUS

Dear Well Owner:

Enclosed for your records is an annotated copy of the Notice of Intention to Drill a well. This is returned to you as evidence of compliance with A.R.S. §45-596. A drilling card has been mailed to your designated driller. Prior to drilling he must have it in his possession.

Since this well is being drilled as a Monitor well, or for Cathodic Protection, Grounding, Geotechnical or Piezometer purposes, our standard driller report form is also being furnished to the driller. He is required to complete it and return it to the Department within 30 days after the completion of the well. A Completion Report form is being furnished for monitor wells where pump installation is authorized. This must be completed within thirty days of installation as required by A.R.S. §45-600.

A Change of Well Information form is enclosed for your future use. If you deem it necessary to change the location of the proposed well, please notify the Department on the enclosed form. A properly amended Drilling Card will then be issued and must be in possession of the driller before drilling begins. During the drilling of a new well, if it is determined that it must be abandoned, then a Well Abandonment Completion Report must be submitted per R12-15-816.F.

Per A.R.S. §45-593, the person to whom a well is registered shall notify this Department of a change of ownership of the well and/or information pertaining to the physical characteristics of the well, in order to keep the well registration file current and accurate.

For additional information, you may contact the Operations Division at (602) 542-1581.

Sincerely,

A handwritten signature in cursive script that reads "Ellen Kane".

Ellen Kane  
Groundwater Permit Specialist

STATE OF ARIZONA  
DEPARTMENT OF WATER RESOURCES  
OPERATIONS DIVISION  
15 SOUTH 15TH AVENUE  
PHOENIX, ARIZONA 85007  
(602) 542-1581

# ARIZONA DEPARTMENT OF WATER RESOURCES

## OPERATIONS DIVISION

500 North Third Street  
Phoenix, Arizona 85004-3903  
Phone (602) 417-2470

# DUPLICATE

THIS AUTHORIZATION SHALL BE IN POSSESSION OF THE DRILLER DURING ALL DRILL OPERATIONS

WELL REGISTRATION NO. 55-547611 THRU 55-547613

AUTHORIZED DRILLER: BOYLES BROS. DRILLING CO.

LICENSE NO. 28

NOTICE OF INTENTION TO DRILL A MONITOR WELL HAS BEEN FILED WITH THE DEPARTMENT BY:

Owner of Well(s)

MAGMA COPPER CO.

7400 N. ORACLE RD. S162

TUCSON

AZ 85704

The well(s) is/are to be located in:

SW 1/4 SW 1/4 NW 1/4 Section 28 Township 4.0 SOUTH Range 9.0 EAST  
10 acre 40 acre 160 acre

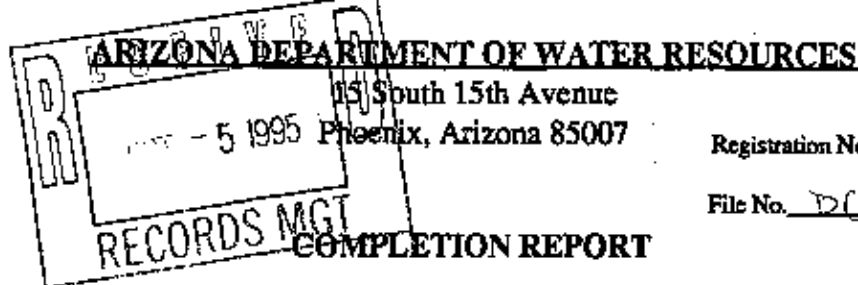
NUMBER OF WELLS IN PROJECT: 3

THIS AUTHORIZATION EXPIRES AT MIDNIGHT ON JAN 23RD, 1998

THE DRILLER SHALL FILE A LOG OF THE WELL WITHIN 30 DAYS OF  
COMPLETION OF DRILLING.



  
CHIEF, OPERATIONS DIVISION



M9-S

Registration No. 55-547613

File No. D(4-9)286CC

1. Per A.R.S. § 45-600, the Completion Report is to be filed with the Department within 30 days after installation of pump equipment by the registered well owner.
2. Drawdown of the water level for a non-flowing well should be measured in feet after not less than 4 hours of continuous operation and while still in operation and for a flowing well the shut-in pressure should be measured in feet above the land or in pounds per square inch at the land surface.
3. The static groundwater level should be measured in feet from the land surface immediately prior to the well capacity test.
4. The tested pumping capacity of the well in gallons per minute for a non-flowing well should be determined by measuring the discharge of the pump after continuous operation for at least 4 hours and for a flowing well by measuring the natural flow at the land surface.

**LOCATION OF THE WELL:**

4 N/4 Township 9 E/W Range 28 Section SW 1/4 10-acre SW 1/4 40-acre NW 1/4 160-acre

**EQUIPMENT INSTALLED:**

Kind of pump SUBMERSIBLE TURBINE  
Turbine, centrifugal, etc.

Kind of power ELECTRIC H.P. Rating of Motor 1.5  
Electric, natural gas, gasoline, etc.

Pumping Capacity 5 GPM - 14 GPM Date pump installed: 9-20-95  
Gallons per minute

**WELL TEST:**

Test pumping capacity 2.5 GPM Date Well Tested: 9-20-95  
Gallons per minute

Method of Discharge Measurement ORIFICE  
Weir, orifice, current meter, etc.

Static Groundwater Level 168.2 ft. Drawdown 318.8 ft.

Total Pumping Lift 487 ft. Drawdown  
(Flowing Well)

I HEREBY CERTIFY that the above statements are true to the best of my knowledge and belief.

\_\_\_\_\_, 19\_\_\_\_  
Date

MAGMA COPPER COMPANY  
Print/Well Owner's Name

\_\_\_\_\_  
Signature of Well Owner or Agent

ENTERED OCT 10 1995

14605 E. HUNT HIGHWAY  
Address

FLORENCE ARIZONA 85032  
City State Zip